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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,292

04/12/2004

Didier Perrin

LUP-110

4555

7590

09/19/2006

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EXAMINER

BOTTORFF, CHRISTOPHER

ART UNIT

PAPER NUMBER

3618

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/823,292	PERRIN, DIDIER	
	Examiner	Art Unit	
	Christopher Bottorff	3618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/28/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed August 14, 2006 has been entered. Claim 15 is canceled.

Claims 1-14 are pending.

Election/Restrictions

Applicant's election without traverse of invention I in the reply filed on August 14, 2006 is acknowledged. Claims 1-14 are directed to invention I and have been considered.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on July 28, 2005 was considered by the examiner.

Claim Objections

Claims 5, 6, and 8 are objected to because of the following informalities: Claims 5 and 6 recite the "sped" increasing gear on lines 2 and 5 respectively, which should recite the "speed" increasing gear. Also, claim 8 recites "having" axially movable between in line 9, which should recite "being" axially movable similar to claim 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 4, 5, 8, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Hata et al. US 6,886,648.

Hata et al. disclose a drive train comprising an internal combustion engine 150, an electric motor 140, an electric generator 130, a rotational speed increasing gear arrangement 120, and a switching mechanism 160. See Figure 1. The electric motor 140 has a drive shaft connected to a driving wheel of a vehicle. See Figure 1. The rotational speed increasing gear arrangement 120 has a high speed portion connected to a rotor 132 of the generator 130 and a low speed portion. See Figure 1 and column 13, lines 42-57. The switching mechanism 160 is connected to a drive shaft of the

internal combustion engine 150 via the speed increasing gear arrangement 120. See Figure 1.

The driving shaft of the engine 150 defines a rotation axis, the driving shaft of the electric motor 140 is coaxial with the rotation axis, and the rotor 132 of the electric generator 130 is coaxial with the rotation axis. See Figure 1. The electric motor 140, electric generator 130, rotational speed increasing gear arrangement 120, and switching mechanism 160 are enclosed in a housing. See Figure 1 and column 13, lines 53-56.

The limitation in each of claims 1 and 8 requiring the switching mechanism to be “movable between a first position where it interconnects said driving shaft of said engine to said low speed portion of said gear arrangement and a second position where it interconnects said driving shaft of said engine to both said rotor of said generator and to said driving shaft of said electric motor” attempts to distinguish the apparatus from the prior art in terms of function without invoking the limiting standards of 35 USC 112, sixth paragraph. However, it is well settled that claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 120 USPQ 528, 531 (CCPA 1959). “[A]pparatus claims cover what a device *is*, not what it *does*.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). (emphasis in original). Thus, this functional limitation does not distinguish the claimed invention over the prior art.

Moreover, the switching mechanism 160 of Hata et al. functions such that it is movable between a first position and a second position. See column 13, lines 58-60. In the first position, the drive train is configured such that the driving shaft of the engine

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150 and the low speed portion of the gear arrangement 120 are interconnected. See Figure 2. In the second position, the drive train is configured such that the driving shaft of the engine 150 is interconnected to both the rotor 132 of the generator 130 and to the driving shaft of the electric motor 140. See Figure 2.

Furthermore, the limitation in each of claims 1 and 8 requiring the vehicle to be in a series mode, with the generator operated at nominal rotation speed while the engine operates at low speed, when the switching mechanism is in the first position and in a parallel mode, with the generator operated at a rotational speed of the engine, when the switching mechanism is in the second position attempts to differentiate the claimed apparatus from the prior art based on the intended use of the apparatus. However, it is also well settled that claims containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all of the structural limitations of the claims. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). Here, this intended use limitation does not differentiate the claimed apparatus from Hata et al. since Hata et al. disclose all of the structural limitations of the claims. In addition, arranging the switching mechanism 160 of Hata et al. in either the first or second position is intended to configure the vehicle in either the series or parallel mode as claimed. See Figure 2; column 13, lines 58-60; and column 17, lines 19-24.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hata et al. US 6,886,648 alone.

The motor and generator of Hata et al. each have an internal rotor and external stator, rather than the claimed internal stator and external rotor. However, arranging the stator as internal and rotor as external, rather than arranging the rotor as internal and stator as external, represents a mere reversal of parts. Also, the examiner takes official notice that the desirability of arranging an electric motor or generator with an internal stator and external rotor was old and well known in the art at the time the present invention was made. Providing either the motor or generator with an internal stator and external rotor would have been obvious to one of ordinary skill in the art at the time the invention was made. This arrangement would effectively support the motor or generator structure and would allow the motor or generator to operate as desired.

Allowable Subject Matter

Claims 6, 7, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 6 and 13 each require

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the arrangement to have a freewheeling gear mounted to the drive shaft as claimed and a speed increasing gear mounted to the housing as claimed, with the speed increasing gear having both a small gear diameter portion and a large gear diameter portion meshed with the freewheeling gear and generator rotor respectively. The prior art does not teach such a gear arrangement, in combination with the further limitations of the claims. Thus, this feature, in combination with the further limitations of claims 1, 4, and 5, distinguishes the claimed invention over the prior art.

Conclusion

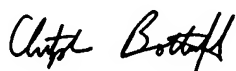
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamaguchi et al., Kubo US 5,722,502, Aoyama et al., Frank, Sasaki, Hamai, Deguchi et al., Tanenaka et al., Masaki, and Lasson et al. disclose hybrid vehicle drive trains.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Bottorff whose telephone number is (571) 272-6692. The examiner can normally be reached on Mon.-Fri. 7:30 a.m. - 4:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Christopher Bottorff